	All patients (464)	Group 1 (261)	Group 2 (139)	Group 3 (64)	P
Before PMC					
Age, years	54 ± 15	49 +15	61 ± 13	58 + 14	< 0.001
Women, %	360 (78)	211 (81)	106 (76)	43 (67)	0.07
Atrial fibrillation, %	143 (31)	61 (23)	56 (40)	26 (41)	< 0.001
Valve area, cm^2	1.06 ± 0.22	1.1 + 0.22	1.05 + 0.20	0.95 ± 0.24	< 0.001
After PMC					
Valve area, cm^2	1.76 ± 0.27	1.33 ± 0.26	1.71 ± 0 26	1.61 ± 0.23	< 0.001
Mitral regurgitation > 2, %	45 (10)	26 (10)	14 (10)	5(8)	0.86
Good immediate results, %	384 (33)	229 (88)	108 (78)	47 (73)	0.004
> 1 commissure totally split, %	566 (61)	319 (61)	175 (63)	72 (56)	0.14

Data presented are number of patients (percent) or mean ± SD.

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Significance of echocardiographic factors in prediction of immediate result of percutaneous mitral commissurotomy

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Objectives.— Define echocardiographic predictors of the result after percutaneous mitral balloon commissurotomy (PMC).
Methods.— PMC by the Inoue balloon was attempted in 361 patients (73.68% female) with severe mitral valve stenosis. The mean age was 32.87 years. All the patients had undergone echocardiographic examination before PMC to assess mitral anatomy, commissural calcification, and to determine the Wilkins score. Successful PMC was defined as: final mitral valve area (MVA) ≥ 1.5 cm^2 without a post-procedure mitral regurgitation (MR) grade > 2.
Results.— The mean value of Wilkins score was 7.48 ± 1.89 (range 5—13) and the mean mitral valve area (MVA) before PMC was 0.89 ± 0.17 cm^2 (range 0.55—1.3 cm^2). 34 patients (9.4%) had one-commissural calcification. After PMC, the mean MVA increased to 1.82 ± 0.1 cm^2 ($P < 0.001$) resulting in a success rate of 92.7%. Mitral valve mean gradient (MVMG) decreased from 13.3 ± 5.5 to 6.4 ± 3.4 mmHg. Severe mitral regurgitation (≥ grade 3) occurred in eight patients (2.2%). Wilkins score was an independent predictor of the immediate result of PMC but, if > 8, this score had a weak predictive value. Commissural morphology was another independent predictor of the immediate result of PMC.
Conclusion.— Pre-procedure echocardiographic assessment appears to be helpful in predicting PMC results. Successful PMC is influenced by the Wilkins score and commissural morphology.

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Hemodynamic profile changes during exercise of the new St-Jude trifecta aortic bioprosthesis: Results from a French multicentre exercise echocardiographic study

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Objectives.— Initial experience with the new supra-annular pericardial stented St-Jude Trifecta aortic bioprosthesis reports excellent resting hemodynamic profiles. Nevertheless, little is know concerning haemodynamic profile changes of aortic bioprostheses during exercise.
Methods.— Between February 2011 and September 2012, 57 patients (26 men; mean age 75 ± 9) with severe symptomatic aortic stenosis who underwent AVR with the new St-Jude Trifecta Bioprosthesis were prospectively included in a French multicentre study (University hospitals of Amiens, Rennes and Angers). All patients who were able to exercise underwent quantitative Doppler echocardiographic measurements at rest and during semi supine exercise test at 6 months after AVR. Doppler parameters were recorded at rest, at low level (25 W) and at peak exercise (53 ± 8 W).
Results.— None of the patients had significant paravalvular leakage. For all valve size, the mean peak transvalvular aortic velocity, mean transvalvular gradient (TVG) and the left ventricular ejection fraction, were respectively:
— 210 ± 35 cm/s; 11 ± 3 mmHg and 60 ± 11% at rest;
— 235 ± 52 cm/s; 13 ± 4 mmHg and 63 ± 11% at low level of exercise;
— 248 ± 70 cm/s; 15 ± 5 mmHg and 67 ± 10% at peak exercise.
At rest, Effective orifice area was 1.89 ± 0.44 cm^2, went up to 1.78 ± 0.60 cm^2 at low level exercise and up to 1.95 ± 0.62 cm^2 at peak exercise. Mean TVG increase was 22 ± 29% from rest to low level and by 46 ± 38% from rest to peak exercise.
Conclusions.— The new St-Jude stented bioprosthesis Trifecta provides excellent hemodynamic performances both at rest and during exercise.

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Tissue Doppler echocardiography for the assessment of systolic and diastolic right ventricular function in mild mitral stenosis

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Background.— Right ventricular (RV) function usually affects the outcome in valvular heart disease. Evaluation of RV function in patients with mild mitral stenosis an essential component of clinical management.
Purpose.— The aim of this study is to assess RV function in asymptomatic patients with mild mitral stenosis.
Method.— Thirty-two patients with mild mitral stenosis (mean mitral valve area = 1.73 ± 0.21 cm^2) were included in this study matched with 35 control. All of them were in sinus rhythm. The two groups had similar mean ages and sex ratio. All included subjects had no evidence of hypertension, diabetes mellitus, ischemic heart diseases or chronic pulmonary diseases. We used conventional echocardiography and tissue Doppler imaging.
Results.— We observed no difference in conventional indices of global left ventricular function between the two groups. RV ejection fraction, the conventional Tei index and the tricuspid annular plane systolic excursion were similar in both groups.
The tricuspid annulus systolic velocities obtained at the basal RV free wall were significantly reduced in patients group compared to control group (11.3 ± 1.3 cm/s vs. 14.9 ± 1.6 cm/s, $P < 0.01$). Moreover, tricuspid annulus early diastolic velocities were significantly reduced in mild MS subjects (—7.5 ± 1.4 cm/s vs. —10.9 ± 1.3 cm/s, $P < 0.01$) with lower ration of early to late diastolic velocities (0.7 ± 0.15 vs. 1.24 ± 0.18, $P < 0.01$).
Among mild MS patients, impaired RV systolic and diastolic indices are significantly pronounced in the subgroup with mitral valve area < 1.7 cm^2.
Conclusion.— Our data suggest the presence of subclinical systolic and diastolic RV dysfunction in pure mild mitral stenosis patients. Tricuspid annulus tissue Doppler indices were able to assess RV dysfunction and to precociously recognize patients with worse prognosis.

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